



shredding technology

The reliable brand!

REFERENCE BOOK



COMPETENCE BUILDS TRUST: WASTE SHREDDING SOLUTIONS FROM UNTHA

COMPETENCE BUILDS TRUST

UNTHA's positioning promises uncompromising reliability. We consider trust in partnerships as a key to success and we keep our promises 100 %!

This applies to all our products and services. Our customers can rest assured that by opting for UNTHA they have made the best and most sustainable decision.

We have been a reliable and competent partner in the shredding industry for more than 40 years. Based on the latest technologies and with the help of our highly qualified staff, we develop and produce innovative and tailored shredding solutions for waste shredding and RDF/SRF production. Our every thought and action revolve around our customers and markets.

We provide outstanding products and services of the highest quality and reliability and are therefore able to strengthen our customers' market position.

APPLICATIONS:

- > Commercial and industrial waste
- > Municipal solid waste
- > Bulky waste
- > Waste bales
- > Waste wood
- > Production waste
- > Mixed waste from building sites
- > Hazardous waste
- > Carpets and rugs
- > Pulper ropes
- > etc.



SYSTEM SOLUTION

DEAR READER,

With more than 40 years shredding experience, we could talk for hours about the projects that UNTHA has tackled since the business was first established. But some of our most exciting achievements have actually occurred in the past 18 months alone.

It is during this time that our reputation for manufacturing best-in-class waste to energy systems has really grown. We have now sold the iconic XR waste shredder to dozens of clients worldwide, in countries including Austria, Germany, France, the UK, Ireland, Finland, Poland, Turkey, Portugal, Mexico, the USA, South Korea and Vietnam.

These projects see the XR – renowned as one of the most flexible waste shredders on the market – processing Municipal Solid Waste (MSW), Commercial & Industrial waste, production waste, bulky waste, wood and pulper ropes, to name just a few applications. In some instances the technology is acting as a robust pre shredder, whereas on other sites it provides a single-step shredding solution for alternative fuel production, e.g. biomass, RDF or SRF.

At the same time, our TR secondary shredder has continued to provide the answer to particularly challenging waste management scenarios in all corners of the globe. With the pioneering Eco-Drive concept, this technology is as well known for its energy efficiency and environmental robustness, as it is its performance.

The versatility of these machines is all part of UNTHA's commitment to wholly satisfy clients' WtE requirements,

however complex. We can even supply auxiliary equipment such as conveyors, over-belt magnets, fire suppression technology and eddy current separators, to give our customers a turnkey package from one trusted supplier.

As you can see, it's been a very exciting time in our business unit. And, with so much to talk about, it's hard to condense everything into one publication. However, we've chosen a selection of interesting highlights that hopefully indicate just what our waste shredding solutions are capable of. If you have any further questions, please don't hesitate to contact us.

Enjoy reading!



Peter Streinik
Head of
Business Unit Waste



Christian Lanner
Technical Director
Business Unit Waste





Country: Vietnam
 Input-Material: Footware waste
 Throughput: 10 t/h < 80 mm
 Scope of delivery: XR3000C with frequency inverter, control cabinet room, horizontal conveyor belt, elevating conveyor belt, overband magnet, fire supression system

“The XR3000C is in operation in Hon Chong Plant since September 2015. We are using this machine to produce alternative fuel out of waste from shoe factories all over South of Vietnam which consists out of rubber, leather and other textiles. This material has a very high caloric value, but is one of the most difficult materials to shred. Even though this is such a tough application, we can operate the machine almost 24/7 with very easy and simple weekly maintenance.”

Truong Xuan Bon (Operations Manager)

Country: Ireland
Input-Material: C&I waste
Throughput: 10 t/h < 35 mm
Scope of delivery: XR3000C with frequency inverter



“The main reason for buying UNTHA was their new XR3000. This slow speed shredder is simple to operate and does not need the pre-shredding that is required for high speed SRF shredders on the market. With the XR3000 we can make SRF to below 40mm particle size with no post shredder screening. This allows us to make SRF on a limited capital budget compared to other SRF plants. We chose UNTHA because they have a good reputation in the SRF shredder market in Ireland. They had sold many shredders in Ireland to other companies requiring high output. These companies were happy with the machines and we therefore decided to contact UNTHA. We know that they are willing to listen to the customer. They use the feedback from the customer wisely to enhance the operating performance of the machine. They are not afraid to make changes to the machine to suit the specific requirements of the customer. We do not believe other shredder companies would be so flexible.”

Mark Duffy (General Manager)



Country: UK
Input-Material pre-shredder: C&I waste / MSW
Input-Material post-shredder: Light fraction out of C&I waste / MSW
Throughput pre-shredder: 6 t/h < 200 mm
Throughput post-shredder: 3 x 12t/h < 30 mm
Scope of delivery: 1 x XR2000R with frequency inverter
3 x TR3200 with frequency inverter,
fire supression system





Country: South Korea
Input-Material: pre-treated mixture of light fraction
from MSW, C&I and C&D waste
Throughput: 10 t/h < 50 mm
Scope of delivery: XR3000C with frequency inverter,
control cabinet room



“Our family-run business is incredibly passionate about renewable energy, from solar power to alternative fuel production. Now that our new SRF plant is up and running, with state-of-the-art configurable technology in place, the next step is to investigate relationships with different customers. We can satisfy varied specifications, and look forward to improving South Korea’s resource agenda.”
Geumju Kim (President)



Country: UK
 Input-Material: ASR (Automotive shredded residue)
 Throughput: 2 x 12 t/h < 40 mm
 Scope of delivery: 2 x TR3200 with frequency inverter



Country: Austria
Input-Material: MSW, C&I waste, bulky waste
Throughput: 15 t/h < 200 mm (Bulky waste)
20 t/h < 200 mm (C&I)
30 t/h < 200 mm (MSW)
Scope of delivery: XR3000R with frequency inverter



"Clever and reliable solutions like the XR series are the most economical on the long run..."
Johann Handler (Site Manager)

Country: Finland
Input-Material: C&I waste
Throughput: 20 t/h < 80 mm
Scope of delivery: XR3000C with frequency inverter

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“UNTHA has worked collaboratively with our team in Tampere to deliver an RDF production system that we are now very pleased with. It is flexible and configurable, enabling us to quickly adapt our operations to suit customers’ evolving particle size or capacity requirements, and the energy efficiencies we have witnessed, make the XR a very financially and environmentally sound investment. I wouldn’t hesitate to recommend this technology to other waste management firms worldwide.”

Jaakko Kouhia (Production Manager)



Country: USA
Input-Material: C&I waste
Throughput: 8 t/h < 60 mm
Scope of delivery: XR2000C with frequency inverter,
control cabinet room, horizontal conveyor
belt, elevating conveyor belt, overband
magnet, fire supression system



„We selected the XR2000 because the slow speed design was suitable for our application. In addition, as we compared several alternatives, we liked the efficient power consumption, the robust construction of the system and the easy access for maintenance.“
Alan Greer (Business Manager)



Country: Guatemala
Input-Material: Light fraction out of C&I waste and MSW
Throughput: 12 t/h < 30 mm
Scope of delivery: TR3200 with frequency inverter

„UNTHA has done an excellent job from the design of the plant, the importation, installation of the post shredder TR3200 and finally during this process of learning how to use it. At all small inconvenience that appeared, we always reached a fast and capable answer and support from UNTHA. Thank you very much, we hope to continue having a good relationship between both companies.“
Nancy Chacón (Site Manager)



Country: UK
Input-Material: C&I waste
Throughput: 15 t/h < 40 mm
Scope of delivery: XR3000C with frequency inverter





Country: UK
Input-Material: C&I waste
Throughput: 15 t/h < 40 mm
Scope of delivery: XR3000C with frequency inverter

"When considering the purchase of the shredder for our new SRF production facility in Manchester, UK, the XR3000C was the only shredder capable of producing the < 30mm particle required for SRF for the cement industry in a single pass without the need for a pre-shredder. The slow speed design and robust build meant that the fuel could be produced with high availability while significantly reducing the operational costs and increasing the profitability of the plant and Wheeldon Bros Waste overall business."

James Wheeldon (Director)



Country: USA
Input-Material: Automotive carpets
Throughput: 4 t/h < 60 mm
Scope of delivery: XR3000C with frequency inverter,
control cabinet room



"We required a machine that maintained consistent throughput, was inexpensive to maintain, and was designed with safety in mind. The XR3000C fulfilled all of these requirements. The slow rotor speed reduces the potential for frictional heat build-up in the material while still maintaining ample throughput. The robust wear parts are extremely forgiving to foreign material which inevitably finds its way into our pre-shredded material. The machine parameters are customized easily, allowing us to adapt the shredder quickly to different types of materials that need processing. I also can't say enough about the service UNTHA provided during the installation and after the shredder was commissioned. The service staff is extremely knowledgeable and is truly a partner after the sale and will go out of their way to make sure the shredder is meeting your expectations."

Adam McAnally (Operations Supervisor)



Country: Germany
Input-Material: MSW
Throughput: 33 t/h < 250 mm
Scope of delivery: XR2000S with frequency inverter,
2 belt conveyors for feeding ,
discharge conveyor belts



„The UNTHA shredder XR2000S-180 has been in daily operation since its commissioning in 2015. The main reason for buying the UNTHA shredder XR2000S was to be able to reach a defined fraction size even with worn cutting tools. Furthermore the shredder impressed us with a tested throughput of more than 30 t /h and this same result was also reached during regular operation. This allowed us to increase our plant’s productivity and at the same time to minimise downtimes of delivery vehicles.“
Heiko Schmidt (Deputy CEO)

Country: South Korea
Input-Material: pre-treated mixture of light fraction
from MSW, C&I and C&D waste
Throughput: 13 t/h < 50 mm
Scope of delivery: XR3000C with frequency inverter
control cabinet room

PERITUS
EQUIPMENT



“The reason why we choose UNTHA is clear:
The XR has high throughput and is a strong machine
against foreign objects. Another positive aspect is the simpler
process line comparing to high speed machine.”
Sang-Min Han (Director)

Country:	Germany
Input-Material:	Household and commercial waste
Throughput:	3 x 12 t/h < 80 mm
Scope of delivery:	3 x XR2000S with frequency inverter



„We are operating three XR2000S shredders for post processing of RDF.

In week 15/2014 we treated 1.000.000 t of material, which means that the shredders have processed about 300.000 t RDF at this time. This smaller amount caused by using upstream flat-screens.

Since their start-up each shredder has been in operation for over 30.000 hrs. without any major failures or stop-pages. Maintenance work on the shredders will be done every two weeks. Once a year a revision is carried out in cooperation with UNTHA.

Since we have been using screens instead of screen bars the quality of the processed RDF has improved to such an extent that disturbances at our downstream equipment which are caused by RDF that has not been shredded sufficiently, are very rare.

Finally we can say that the machines have been operating very well in our entire production process also in regards to operational wear and maintenance efforts.“

Uwe Sachs (Technical Manager)



Country: Finland
Input-Material 1: C&I waste
Input-Material 2: C&D waste
Throughput 1: 14 t/h < 80 mm
Throughput 2: 17 t/h < 80 mm
Scope of delivery: 2 x XR2000S with frequency inverter,
control cabinet room



„For us it was crucial to reach an aggregate throughput of 31 t/h on a slow running shredding system.

A slow running system was important because our industrial and commercial waste often includes non-shreddable items and we know from our own experience that fast-running systems are more prone to damages to the cutting and drive systems. Additionally, the XR2000S scored with its rugged design, low rotor speed and high throughput.

Another important factor was the inclusion of the wear parts and throughput warranty in the contract.”

Ville Rautiola (Design Manager)



Country: Germany
Input-Material: Commercial and bulky waste
Throughput: 30 t/h < 200 mm
Scope of delivery: XR2000S with frequency inverter,
special hopper, semi-mobile design



„Since our start up in 2007, TVS had encountered problems with excess lengths and non-shreddable items in the material which had been blocking the conveyor system to the enclosed kiln. We therefore decided to install a UNTHA XR2000S which has been in daily operation since the beginning of 2011.

The main reason for choosing the UNTHA XR2000S was to achieve a defined fraction size even with worn cutting tools. Furthermore the shredder impressed us with a throughput of approximately 30 t/h. Since using the XR2000S the availability of the conveyor system to the enclosed kiln has been raised up to 100%. Thus a considerable increase in the complete plant's efficiency was possible.“

Mike Sinnreich (Plant Manager)



Country: Germany
Input-Material: C&I waste
Throughput: 17 t/h < 120 mm
Scope of delivery: XR3000C with frequency inverter, horizontal conveyor belt, elevating conveyor belt, control cabinet room

„We were very impressed with the low electrical power consumption of the XR, which measured just 105kWh even with such high capacity. In fact, the energy efficiency made the switch to UNTHA easy. Whilst the XR has the same sized motor as our previous machine, we now have a bigger shredder with higher throughputs, but we haven't had to invest in a new power line or incur increased energy costs. This new technology is better for the environment too!“
Johannes Lober (Company Owner)



Country: Mexiko
Input Material: Pre treated C&I waste
Throughput: 13 t/h < 70 mm
Scope of delivery: XR3000C with frequency inverter, control cabinet room, horizontal conveyor belt, elevating conveyor belt, overband magnet

"As the market leader in environmental solutions in Latin America, Promotora Ambiental is bound to continue developing projects and innovative trends in the sustainability sector. Our RDF project (Refuse Derived Fuel) in Mexico is ambitious, unique and innovative. To develop it we required the help of key partners and leaders, committed to excellency and continuous improvement. In addition to that, customer service is a key factor for a successful project completion, implementation and startup for Promotora Ambiental. In all periods of this important project, UNTHA has proven to have all these qualities."

Alfonso Perez y Tellez (International COO & Strategic Development Director)



Country: UK
 Input-Material: Pre-treated medical waste
 Throughput: 10 t/h < 30 mm
 Scope of delivery: XR3000C with frequency inverter, control cabinet room, horizontal conveyor belt, elevating conveyor belt, overband magnet, fire suppression system

“We went with UNTHA because we thought they offered the most professional approach. We had conversations with various manufacturers but UNTHA gave the best interrogation in terms of input material, output speeds and the final product.

The UNTHA system gives us the ability to take multiple inputs, whether that is pre-shredded material or rigid material – it’s all treated the same. We get a nice reliable throughput. And of course there’s the brand name and the fact that UNTHA is renowned for having very reliable kit. The initial support has been fantastic and the ongoing support has been really good. I can’t speak highly enough of the team.”

Steve Kinley (Group Recycling Director)



Country: France
Input-Material: C&I waste, bulky waste
Throughput: 15 t/h < 300 mm
Scope of delivery: XR3000R with frequency inverter,
control cabinet room



“So, when we saw the shredder’s specification on paper this wasn’t enough. We therefore travelled to UNTHA’s Austrian headquarters to watch the XR Ripper in action. During trials, the machine certainly surpassed our throughput expectations, demonstrating impressive robustness and up-time too. We were also very impressed with the low energy consumption of this modern technology. We now have a machine that will support our plant’s performance whilst upholding our commitment to the environment.”

Eric Bourgade (Production Manager)



Country:	Turkey
Input-Material pre-shredder:	Hazardous and non-hazardous industrial waste
Input-Material post-shredder:	Pre-shredded hazardous and non-hazardous industrial waste
Throughput pre-shredder:	15 t/h < 150 mm
Throughput post-shredder:	10 t/h < 35 mm
Scope of delivery:	XR2000R with frequency inverter, horizontal conveyor TR3200 with frequency inverter



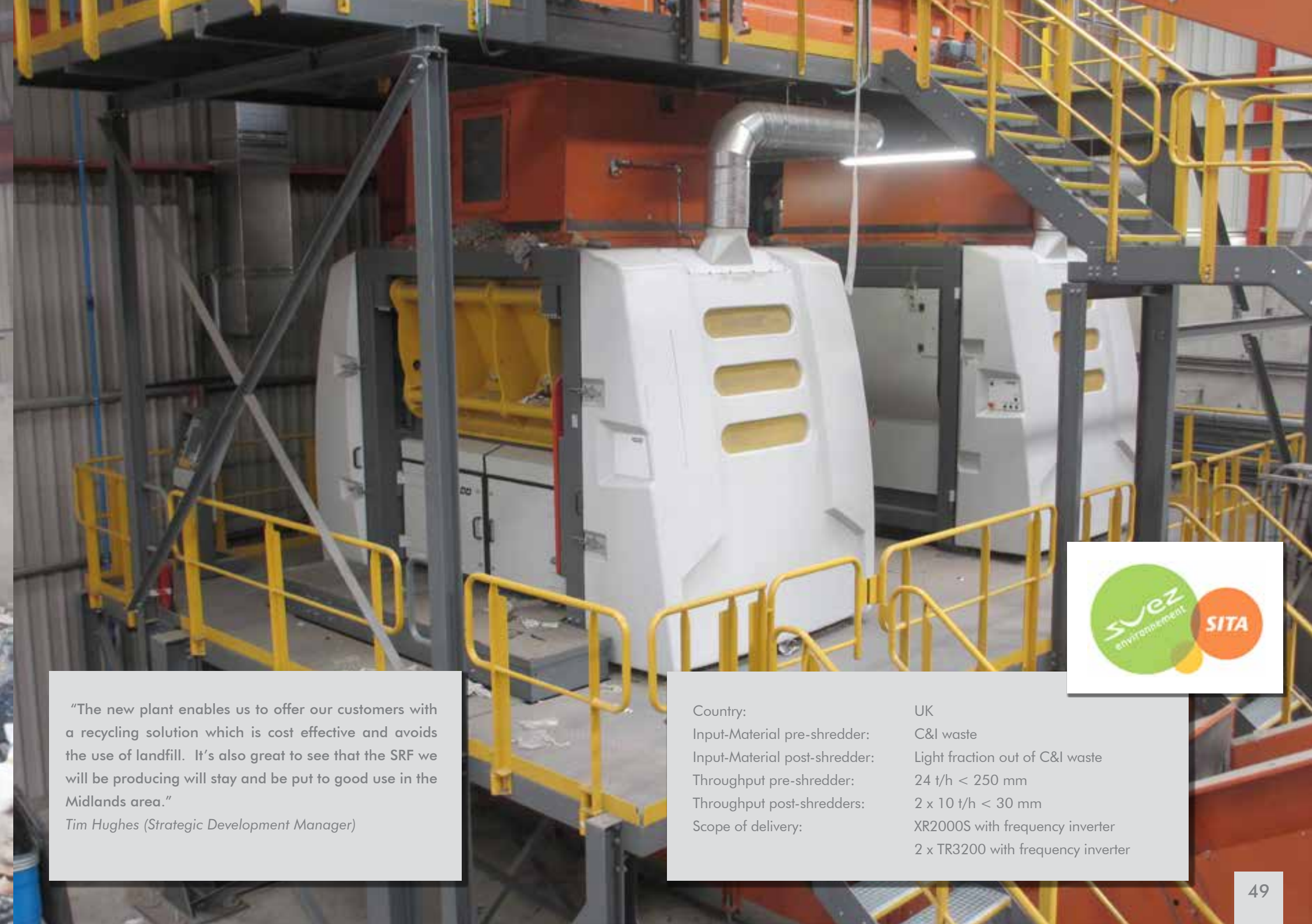


SITA UK’s new Solid Recovered Fuel plant in Birmingham is set to produce some 60,000 tonnes of SRF a year with the installation of three high-specification shredders.

SITA UK has invested in the precise and powerful shredders – one XR pre shredder and two TR post shredders – to process commercial and industrial waste from the Midlands. Not only will this waste be diverted from landfill, it will also be converted into cement-grade SRF. Produced to a defined specification with a homogenous particle size of less than 30mm, the SRF will be used in Cemex UK’s plant in Rugby in a 25-year-deal between the cement manufacturer and SITA UK.

The shredders will operate in conjunction with trommels, air shifters, magnets and eddy current separators to ensure the specification is achieved. A near infrared (NIR) unit will be used to measure output quality in real time and ensure the SRF has the correct chlorine, moisture content and calorific value. Engineering specialists Sutco designed the state-of-the-art SRF production plant for SITA UK and together the companies commissioned equipment that would maximise SITA UK’s investment in the new plant.

In UNTHA’s favour was the proven capabilities of the machinery, pre and post shredders which were designed by the same engineering team with robust technology and a solid track record in terms of uptime and ease of maintenance. The UNTHA shredders ticked all the boxes in both performance and operational terms with the reassurance of ongoing technical support plus easy access to high-level expertise. SITA UK’s new Integrated Resource Recovery Centre will divert up to 200,000 tonnes of waste from landfill every year through recycling and the production of SRF.



“The new plant enables us to offer our customers with a recycling solution which is cost effective and avoids the use of landfill. It’s also great to see that the SRF we will be producing will stay and be put to good use in the Midlands area.”
Tim Hughes (Strategic Development Manager)

Country:	UK
Input-Material pre-shredder:	C&I waste
Input-Material post-shredder:	Light fraction out of C&I waste
Throughput pre-shredder:	24 t/h < 250 mm
Throughput post-shredders:	2 x 10 t/h < 30 mm
Scope of delivery:	XR2000S with frequency inverter 2 x TR3200 with frequency inverter



Country:	UK
Input-Material:	Commercial & Industrial Waste
Throughput:	10 t/h < 30 mm
Scope of delivery:	TR3200 with frequency inverter

"You might expect a shredder as advanced as the TR to prove expensive to run, but this is not the case at all. This is an incredibly innovative yet cost effective solution which delivers a very impressive output for our fast-paced business."

Iain Taylor (Head of Operations)



“When searching for shredding technology to process MSW residue, we had two manufacturers to consider, both claiming to have the most innovative machinery in the marketplace.

We chose two UNTHA TR shredders because they are packed full of functionality, yet they’re so easy to operate. We’ve not been disappointed. In addition to operational simplicity we have an abundance of data at our fingertips, meaning we can optimise our plant and if anything needs to be tweaked or fixed, we know where to focus our attention. Even though the quality of our input material has changed, our throughput has not been adversely affected. We’re still processing 12 tonnes per hour, per shredder, 10 hours a day, so in this respect the TRs are actually exceeding our performance expectations! UNTHA UK’s promises have been fulfilled – with a maintenance programme in place the machines are performing how we were told they would and they are now well-placed to play a crucial role in our continued SRF production for the cement industry. The knowledge, experience and helpfulness of UNTHA UK really added value to our project. The team will surely prove an important asset for other companies looking to invest in shredding technology.”

Jim Entwisle (Director, Lancashire Waste)



Country:	UK
Input-Material pre-shredder:	MSW
Input-Material post-shredder:	Light fraction out of MSW
Throughput pre-shredder:	30 t/h < 250 mm
Throughput post-shredders:	2 x 12 t/h < 30 mm
Scope of delivery:	XR2000S with frequency inverter 2 x TR3200 with frequency inverter





„We chose UNTHA after being 100% positively impressed by both the company itself and its machines. We've been visiting first the headquarters in Austria and then a reference plant in the UK. Here we seen with our own eyes that good theories were actually turning in even better reality. In our plant we are processing plastics and light fraction from HHW. We first bought the TR2500, because it allows us to get to a fine grain size in one single process. Then, on the following year, we bought a XR2000S-220, thanks to its screen bars, the achieved grain is also suitable for fluidized bed furnaces. We work 8 hours per day and we reach a 10 tons/hour capacity with the TR and 15 tons/hour with the XR. Without any particular inconvenience, simply following the ordinary service guidelines mentioned in the manuals. ...Both of the machines do actually meet in total our requirements.“

Giuseppe Esposito (Plant Manager)



Country:	Italy
Input-Material pre-shredder:	C&I waste and MSW / Yellow bag
Input-Material post-shredder:	Light fraction out of C&I waste and MSW / Yellow bag
Throughput pre-shredder:	20 t/h < 300 mm
Throughput post-shredder:	10 t/h < 80 mm
Scope of delivery:	XR2000S with frequency inverter TR2500 with frequency inverter

“Based on evaluation of many different parameters like energy consumption, shredding capacity, power connection and maintainability UNTHA’s technology was best scored and chosen for this plant application. Also feedback and experience from our previous project from UNTHA’s machines has been excellent in operation and project execution point of view. Therefore it was quite easy to make decision and choose UNTHA.”

Olli Ryymin (Project Manager)

ANDRITZ



Country:	Finland
Inputmaterial pre-shredders:	MSW
Inputmaterial post-shredders:	Pre-shredded and screened MSW
Throughput pre-shredders:	2 x 41 t/h < 110 mm
Throughput post-shredders:	2 x 16,5 t/h < 80 mm
Scope of delivery:	2 x XR3000R with frequency inverter 2 x XR3000C with frequency inverter



Country:	Poland
Input-Material:	Light fraction out of MSW
Throughput:	6 t/h < 30 mm
Scope of delivery	TR2500 with frequency inverter



Country: France

Input-Material pre-shredder: Production material

Input-Material post-shredder: Light fraction out of Production material

Throughput pre-shredder: 13 t/h < 150 mm

Throughput post-shredder: 12 t/h < 30 mm

Scope of delivery: XR2000S with frequency inverter
TR3200 with frequency inverter
2 x Control cabinet rooms
ATEX execution (zone 22) of drive motors and all electrical parts outside of the control cabinet rooms

After discovering UNTHA's last products during the Pollutec tradeshow we wanted to know more about the impressive technical features of their machines. At a reference visit in UK, where we have seen several plants with UNTHA shredders in operation, was then necessary to confirm in the reality the quality and performances of the UNTHA shredders.

UNTHA has been the right partner all along the whole project from the engineering until the acceptance. Beside our decision to work with UNTHA based on technical evaluation, we were glad to have the support in French language from the headquarter in Kuchl / AUSTRIA.

Philippe Barda (Study and Technical Project Engineer)

UNTHA

shredding technology

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REFERENCES

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